

ABSTRACT

Administratively, the location of the study area is located in Pomalaa District, Kolaka Regency, Southeast Sulawesi Province. River and marine's water quality studies conducted in the IUP of PT. Mekongga Putra Sejahtera.

Geographically located at coordinates $4^{\circ} 12'20.4''$ - $4^{\circ} 14'41.2''$ S and $121^{\circ} 37'19.7''$ - $121^{\circ} 38'36.8''$ E, with an area of 388 ha.

Geomorphology of the study area consists of formations origin denudational with two geomorphic units such as Denudation hills with sloping-a bit steep relief (D1) and Denudation hills with Ramps-Leaning relief (D2). Stratigraphy in the study area is composed of peridotite lithologies PMS, which is based on the distribution of litho units are not official. The lithologies consist of dominant rock peridotite, serpentinite rocks and dunite partially.

Based on the analysis of river water quality in the area showed that there are some elements that exceed quality standards, including: BOD volume Kumoro river water, ie 1.0 mg / L - 3.2 mg / L and huko - huko 1.2 mg / L - 3.4 mg / L (Quality raw grade I = 2 mg / L, II = 3 mg / L), the volume of cadmium (Cd) Kumoro river water, ie 0.011 mg/L-0, 019 mg / L and huko - huko between 0,003 mg/L-0, 023 mg / L (standard quality class I, II, III and IV = 0.01), and the volume of chromium (Cr) Kumoro river water, ie, 0.71 mg / L - 0.85 mg / L and huko - huko between 12:55 mg / L - 0.61 mg / L (standard quality class I, II, III = 0.05 mg / L grade IV = 1 mg / L).

Based on the test results of river water samples in the study area, there are several parameters, one of which is chromium which is part of the existing mineral composition in peridotite rocks that exceed environmental quality standards with a water volume of between 0.55 mg / l - 0.85 mg / liter. This is caused by the presence of water which dissolves media elements - elements contained in the rocks especially chromium which can cause increased water turbidity and suspended solids. In the mining activities there are some activities that cause environmental degradation both water quality and social, economic and public health activities such as road construction and increase in specification mining, land clearing, overburden stripping activities, events stockpiling overburden, ore mining and transportation activities. To address the impacts caused by mining activities, it is necessary to design and control due to the influence of mining on the environment as a part of the planning of mining operations by preventing erosion and reclamation.